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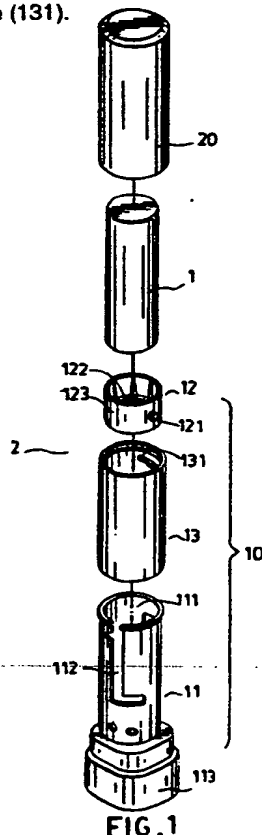
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GB 2146530 A GB 0925270 A GB 0767748 A
EP 0046336 A US 3826232 A

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(54) Insecticidal stick

(57) An insecticidal utensil includes an elongated solid insecticide stick (1) movable into and out of a housing (2). The insecticide stick (1) can be used to smear insecticide on surfaces that insects frequent. The housing (2) has a cover (20) and a main body (10) comprising a cylindrical receiver (11) having two vertical slots (112), a hollow cylinder (13) having a spiral groove (131), and a cup (122) for receiving the end of the stick (1) and having a pair of protrusions (121) which extend through the slots (112) and engage with the spiral groove (131).



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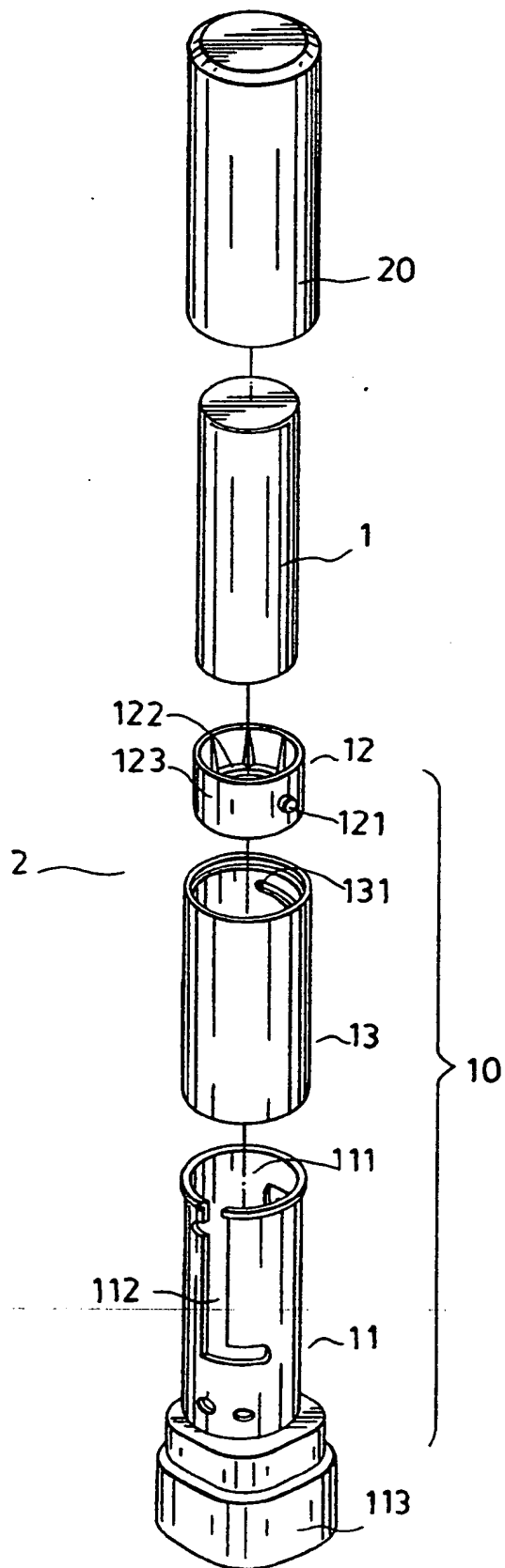


FIG 1

AN INSECTICIDAL UTENSIL

The present invention relates to an insecticidal utensil. And more particularly, to an insecticidal utensil comprising a housing wherein a solid stick containing insecticide is provided.

The conventional home use insecticide is usually in the form of a pressurized liquid contained in a can. To kill insects, the insecticide is sprayed into the air or applied to areas that insects usually frequent. Most liquid insecticides include dichloromethane which is harmful to people's health if inhaled in large amounts. The liquid insecticides contained in the pressurized cans must also be kept away from flames to prevent combustion or explosion. Furthermore, since the spraying of aerosols can result in ozone depletion, the manufacture and use of such insecticides have been prohibited by many countries. Liquid insecticides containing dichloromethane are also rejected by both environmentalists protectors and consumers. Recently, an electrically heatable insecticide has been developed in the form of solid pieces which can be placed on an electric heater so that the insecticide ingredient in the solid pieces can be vaporized into the air to kill the insects. This invention also produces a gas which is as harmful as the aerosol insecticides.

Therefore, the object of the present invention is to provide an insecticidal utensil which will not come in contact with the skin when it is gripped by hand.

5 The main feature of the present invention is a solid stick containing insecticide which can be stored in a housing. The stick can be extended so as to apply it to areas that insects frequent.

Accordingly, the present invention provides an insecticidal utensil comprising:

10 an elongated stick which is essentially made of insecticide and filler; and

a housing which is joined to one end of said stick to serve as a handle.

15 Other features and advantages of this invention will become more apparent from the following detailed description of a preferred embodiment of this invention with reference to the accompanying drawings in which:
Fig.1 is a perspective exploded view of a preferred embodiment of the insecticidal utensil in accordance
20 with the present invention.

As shown in Fig.1, a preferred embodiment of an insecticidal utensil of the present invention comprises a elongated stick 1 and a housing 2 in which the stick 1 is contained. The housing 2 includes a main
25 body 10 and a cover 20. The main body further comprises a hollow cylindrical receiver 11 having an opened end 111 thereof, a pair of generally " L " shaped slots

112 formed on the wall of the cylindrical receiver 11 in two diametrically opposite positions, each slot being extended to the opened end 111 of the hollow cylindrical receiver 11, a handle portion 113, 5 connected to the cylindrical receiver 11 at the opposed end relative to the opened end 111, which can be used as a grip, a hollow cylinder 13 having two opened ends and a spiral groove 131 formed on its internal surface for being sleeved onto the outside surface of the 10 receiver 11 in a circumferentially slidable position, and a pan 12 having a bottom 122 with a wall 123 axially extending from the bottom of the pan 12 and a pair of protrusions 121 formed opposingly on the outer surface of the wall 123.

15 The elongated stick 1 is fixed in the pan 12 which is in turn received in the cylindrical receiver 11. The hollow cylinder 13 is sleeved onto the receiver 11 and the protrusion 121 formed on the pan 12 extends outwardly via the slot 112 formed on the surface of the 20 cylinder to be engaged with spiral groove 131 of the hollow cylinder 13. When the receiver 11 is rotated counterclockwise with respect to the hollow cylinder 13, the protrusion 121 formed on the pan 12 will be restrained by both the slot 112 and the spiral groove 25 131 so as to move upwardly thereby extending the other end of the stick 1 from the opened end 111 of the receiver 11. When this operation is reversed, the stick

1 is withdrawn into the receiver 11 by rotating the receiver 11 with respect to the hollow cylinder 13 clockwise. After the stick 1 is wholly contained in the receiver 11, the cover 20 is then adapted to sleeve
5 onto the outside of the cylinder 13 so as to cover the opened end 111 of said receiver.

When the insecticide stick 1 is extended from the opened end 111 of the receiver 11, the handle portion 113 formed on the other end of the receiver 11 can be
10 gripped by a hand so as to smear the insecticide contained in the stick 1 on the areas that insects, such as cockroaches, ants and spiders frequent. In the manufacturing of the elongated solid stick 1, an effective amount of an insecticide should firstly
15 be prepared, such as pyrethrum, preferably about 1 to 2% by weight per stick, a milled filler powder, such as calcium carbonate or talcum in an amount of about 96 to 98% by weight per stick, and a binder, such as wax or paraffin in an amount of about 1 to 2% by weight per
20 stick. These materials should be heated and mixed uniformly to form a flowable mix. Then the flowable mix should be introduced into a specific mold, such as that of a penlike object, and then cooled to a room temperature to form an elongated solid insecticide
25 stick. If desired, the stick can be colored by means of a coloring agent while mixing.

It is within the ambition of the present invention

to cover any other obvious modifications of the examples of the preferred embodiment described herein, provided such modifications fall within the scope of the appended claims.

CLAIMS:

1. An insecticidal utensil comprising:

a elongated solid stick which is essentially made of insecticide and filler; and

5 a housing wherein the solid stick is provided; whereby people can hold the housing of the insecticidal utensil and smear insecticides on an area that insects frequent.

2. An insecticidal utensil as claimed in claim 1, wherein said housing further comprises:

10 a hollow and cylindrical elongated receiver having an opened end and a pair of slots formed thereon;

a hollow cylinder having two opened ends and a spiral groove formed on its internal surface, said cylinder being circumferentially and slidably sleeved on the outside surface of said receiver; and

15 a pan joined to one end of said stick within said receiver, said pan having a pair of protrusions formed thereon, extending via the slot formed on the receiver and engaging with the spiral groove formed on the internal surface of said cylinder;

20 so that when the receiver is rotated, the protrusion on the pan will be engaged by the slot and the spiral groove, allowing the stick to be extended from the opened end of the receiver.

25 3. An insecticidal utensil as claimed in claim 2, wherein said housing further comprises a cover which is

adaptable so as to sleeve on the outside of the cylinder and cover the opened end of the receiver.

4. An insecticidal utensil as claimed in claim 3, wherein said receiver further comprises a handle portion formed in the other end of the receiver, said
5 handle portion being adaptable to be gripped by hand.

5. An insecticidal utensil substantially as hereinbefore described with reference to the accompanying drawings.

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